

## 0.2% Potassium Tellurite Reagent

### INTENDED USE

Remel 0.2% Potassium Tellurite Reagent is recommended for use in qualitative procedures to differentiate *Mycobacterium* species based on their ability to reduce potassium tellurite.

### SUMMARY AND EXPLANATION

In 1969, Kilburn et al. described the differential identification of mycobacteria utilizing the tellurite reduction test.<sup>1</sup> Tween® 80 is added to Middlebrook 7H9 Broth to test for tellurite reduction. Some species of mycobacteria reduce potassium tellurite at variable rates. The ability to reduce tellurite in 3 days distinguishes members of *Mycobacterium avium* complex from most other nonphotochromogens. Most rapid growers reduce tellurite in 3 days.<sup>2</sup>

### PRINCIPLE

The enzyme, tellurite reductase, reduces potassium tellurite, an electron acceptor, to metallic tellurite which is visualized as a black precipitate.<sup>2</sup>

### REAGENTS (CLASSICAL FORMULA)\*

Potassium Tellurite (CAS 7790-58-1) ..... 2.0 g  
Demineralized Water (CAS 7732-18-5) ..... 1000.0 ml

\*Adjusted as required to meet performance standards.

### PRECAUTIONS

This product is For *In Vitro* Diagnostic Use and should be used by properly trained individuals. Precautions should be taken against the dangers of microbiological hazards by properly sterilizing specimens, containers, and media after use. Directions should be read and followed carefully.

### STORAGE

This product is ready for use and no further preparation is necessary. Store product in its original container at 2-8°C until used. Allow product to come to room temperature before use. Do not incubate prior to use. Protect from light.

### PRODUCT DETERIORATION

This product should not be used if (1) the color has changed, (2) the expiration date has passed, or (3) there are other signs of deterioration.

### SPECIMEN COLLECTION, STORAGE, TRANSPORT

Specimens should be collected and handled following recommended guidelines.<sup>3,4</sup>

### MATERIALS REQUIRED BUT NOT SUPPLIED

(1) Loop sterilization device, (2) Inoculating loop, swabs, collection containers, (3) Incubators, alternative environmental systems, (4) Supplemental media, (5) Quality control organisms, (6) Middlebrook 7H9 Broth w/Tween 80 (REF 09556), (7) TB Spade (REF 503090).

### PROCEDURE

1. Inoculate a tube of Middlebrook 7H9 Broth w/ Tween® 80 with a heavy inoculum from an actively growing culture. Inoculate a positive and negative control simultaneously.
2. Incubate in 5-10% CO<sub>2</sub> at 35-37°C for 7 days.
3. If growth is not heavy at 7 days, reinoculate a new test broth with a heavy inoculum and retest the following week. The poorly growing culture may be tested at 7 days but do not reincubate for additional time in anticipation of heavier growth.<sup>2</sup>
4. All incubated tubes should be shaken daily to encourage heavy growth in 7 days.
5. Following incubation, add 2 drops of 0.2% Potassium Tellurite Reagent to each test and control then mix.
6. Reincubate in 5-10% CO<sub>2</sub> at 35-37°C for an additional 3 days. Do not shake tubes at this time.
7. Examine the sedimented cells in the tube for a black precipitate in and around the mycobacterial cells.

### INTERPRETATION

Positive Test - Formation of a black precipitate of metallic tellurium in and around the sedimented mycobacterial cells

Negative Test - Growth of cells without black precipitate; light brown or gray precipitate may appear

### QUALITY CONTROL

All lot numbers of 0.2% Potassium Tellurite Reagent have been tested using the following quality control organisms and have been found to be acceptable. Testing of a positive and negative control should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	INCUBATION	RESULTS
<i>Mycobacterium intracellulare</i> ATCC® 13950	CO <sub>2</sub> , 72 h @ 35°C	Positive
<i>Mycobacterium kansasii</i> ATCC® 12478	CO <sub>2</sub> , 72h @ 35°C	Negative

**LIMITATIONS**

1. Do not use a broth containing glycerol to perform the potassium tellurite test.<sup>2</sup>




**BIBLIOGRAPHY**

1. Kilburn, J.O., V.A. Silcox, and G.P. Kubica. 1969. Am. Rev. Respir. Dis. 99:94.
2. Kent, P.T. and G.P. Kubica. 1985. Public Health Mycobacteriology, A Guide for the Level III Laboratory. U.S. Dept. of H.H.S., CDC, Atlanta, GA.
3. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.A. Pfaller, and R.H. Tenover. 2003. Manual of Clinical Microbiology. 8<sup>th</sup> ed. ASM, Washington, D.C.
4. Forbes, B.A., D.F. Sahm, and A.S. Weissfeld. 2002. Bailey and Scott's Diagnostic Microbiology. 11<sup>th</sup> ed. Mosby, St. Louis, MO.

**PACKAGING**

REF 21254, 0.2% Potassium Tellurite Reagent...25 ml/Btl

**Symbol Legend**

<b>REF</b>	Catalog Number
<b>IVD</b>	In Vitro Diagnostic Medical Device
<b>LAB</b>	For Laboratory Use
	Consult Instructions for Use (IFU)
	Temperature Limitation (Storage Temp.)
<b>LOT</b>	Batch Code (Lot Number)
	Use By (Expiration Date)

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CAS (Chemical Abstracts Service Registry No.)

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